Project Introduction

The Phase I effort successfully demonstrated the feasibility of a terrain guided automated precision landing sensor using an innovative multi-field-of-view stereo motion system with a novel real time terrain mapping algorithm. The objective of the Phase II proposal is to develop a complete prototype and characterize the performance of the LandingNav sensor system in all of the relative motion environments anticipated for the descent of the Lunar Surface Access Module. The result of the Phase II work will be a comprehensive flight characterization of the new landing navigation system and a closed loop demonstration of the multi-camera stereo vision unit working with the feature detection and terrain mapping to avoid hazards.

Primary U.S. Work Locations and Key Partners

Organizations Performing Work	Role	Type	Location
⭐Johnson Space Center(JSC)	Lead Organization	NASA Center	Houston, Texas
StarVision Technologies, Inc.	Supporting Organization	Industry	College Station, Texas

LandingNav: Terrain Guided Automated Precision Landing, Phase II

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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Johnson Space Center (JSC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Primary U.S. Work Locations
Texas

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Technology Areas

Primary:

- TX09 Entry, Descent, and Landing
  └ TX09.4 Vehicle Systems
    └ TX09.4.4 Atmosphere and Surface Characterization